

Claims:

1. A slicing machine for slicing food products (1), in particular blocks of sausage, meat or cheese, having a rotating cutting blade (2), which is mounted so as to be displaceable parallel to its axis of rotation (3), characterised in that displacement of the cutting blade is effected by a feedback-controlled drive.
2. A slicing machine according to claim 1, characterised in that it comprises a counterweight (4), which is displaceable in the opposite direction from the cutting blade (2).
3. A slicing machine for slicing food products (1), in particular blocks of sausage, meat or cheese, having a rotating cutting blade (2), which is mounted so as to be displaceable parallel to its axis of rotation (3), characterised in that it comprises a counterweight (4), which may be displaced in the opposite direction from the cutting blade (2).
4. A slicing machine according to claim 2 or claim 3, characterised in that displacement of the cutting blade (2) and/or of the counterweight (4) is preferably effected by a feedback-controlled drive (6, 8, 9).
5. A slicing machine according to any one of the preceding claims, characterised in that displacement of the cutting blade (2) and/or of the counterweight (4) takes place independently of the rotational speed of the cutting blade.

6. A slicing machine according to any one of the preceding claims, characterised in that the cutting blade comprises a drive shaft (5) and in that the cutting blade (2) and/or the counterweight (4) is(are) mounted so as to be displaceable along the drive shaft (5).
7. A slicing machine according to any one of the preceding claims, characterised in that displacement of the cutting blade (2) and/or of the counterweight (4) is effected with at least one spindle (6).
8. A slicing machine according to claim 7, characterised in that the spindle (6) interacts with the thread (13, 14) of at least one sleeve (8, 9), which is connected with the cutting blade or the counterweight.
9. A slicing machine according to claim 8, characterised in that the threads (13, 14) of the sleeves (8, 9) are different.
10. A slicing machine according to any one of the preceding claims, characterised in that the displacement mechanism (6, 8, 9) of the blade (2) and/or of the counterweight (4) is temperature-controlled, preferably cooled.
11. A slicing machine according to any one of the preceding claims, in that the blade (2) and/or the blade holder (7) is mounted with disks.

12. A method for the axial displacement of cutting blades during operation, characterised in that a counterweight (4) is displaced in the opposite direction from the cutting blade (2).
- 5 13. A method according to claim 12, characterised in that displacement is effected synchronously.
- 10 14. A method according to claim 12 or claim 13, characterised in that displacement of the cutting blade (2) and of the counterweight (4) is effected by a drive (6).
- 15 15. Use of axially displaceable counterweights (4) to stabilise running of a cutting blade (2) of a slicing machine.
- 20 16. Use according to claim 15, characterised in that forces and/or moments arising during displacement of the blade are compensated.
17. Use of the axial displacement of the cutting blade (2) of a slicing machine for adjustment of the zero point.
- 25 18. Use according to claim 17, characterised in that the torque of the drive of the cutting blade is measured during displacement.
- 30 19. Use of the axial displacement of the cutting blade for adjustment of the cutting gap between the cutting blade and a cutting guide.

20. Use according to claim 19, characterised in that adjustment of the cutting gap takes place during operation of the blade.
- 5 21. Use according to claim 20, characterised in that expansion phenomena of the blade caused by thermal expansion and/or centrifugal forces are compensated.
- 10 22. Use according to claim 19 - 21, characterised in that the desired cutting gap is set or modified via a display on the machine.
- 15 23. Use according to any one of claims 15 - 21, characterised in that the mechanical behaviour of the blade is stored as a model and/or by means of characteristic diagrams in the machine control system, for example a computer.
- 20 24. Use according to claim 23, characterised in that these data are used for adjustment or readjustment of the cutting gap when the cutting blade is in operation.
- 25 25. A device for slicing food products having a blade (27) exhibiting a cutting plane (26) and driven in rotation by a drive shaft (30) and having a cutting edge (28), the blade (27) being mounted so as to be displaceable parallel to its drive shaft (30) for adjustment of the cutting gap (29) between the cutting plane (26) and the cutting edge (28), characterised in that it comprises an adjusting means (31) with which the cutting gap (29) may be established.
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26. A device according to claim 25, characterised in that the adjusting means is an adjusting limit stop.
27. A device according to claim 26, characterised in that
5 the adjusting limit stop may be moved between basic position and an adjusting position.
28. A device according to claim 27, characterised in that
10 adjustment of the adjusting limit stop is effected manually or by an actuator.
29. A device according to any one of the preceding claims, characterised in that the adjusting limit stop is a contact sensor.
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30. A device according to any one of the preceding claims, characterised in that axial displacement of the blade is effected with a motor.
- 20 31. A device according to claim 30, characterised in that the current consumption of the motor system may be measured and the motor is feedback-controllable by means of the current consumption.
- 25 32. A device according to any one of the preceding claims, characterised in that the position of the adjusting limit stop and thus the width of the cutting gap may preferably be selected by means of a display.
- 30 33. A device according to any one of the preceding claims, characterised in that adjustment of the cutting gap is effected when the blade is stationary or rotating.

34. A device according to any one of the preceding claims, characterised in that the axial position of the blade is not changed after it has come into contact with the adjusting limit stop.
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35. A method of adjusting the cutting gap using a device according to any one of claims 25 to 34, characterised in that the adjusting limit stop is moved axially from its basic position into its adjusting position
- 10 corresponding to the desired cutting gap and in that the blade is displaced axially until it comes into contact with the adjusting limit stop.
36. A method according to claim 35, characterised in that
- 15 the adjusting limit stop is brought into its basic position after adjustment of the cutting gap.
37. A device for slicing food products, having a rotating cutting blade (27), which is displaceable parallel to
- 20 its axis of rotation (30), characterised in that displacement is effected with at least one means (33) comprising a first (34) and second (35) end, the position of which relative to one another may be modified.
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38. A device according to claim 37, characterised in that the means is a coupling rod or a leaf spring.
39. A device according to claim 38, characterised in that
- 30 the first and second ends may be twisted relative to one another.

40. A device according to any one of claims 37 - 39,
characterised in that the means is bent.